What is claimed is:

1. A gas discharge laser system, comprising:

a resonator including therein a discharge chamber filled with a gas mixture, the discharge chamber containing a plurality of electrodes connected to a discharge circuit for energizing the gas mixture and generating an optical pulse in the discharge chamber, the resonator further including at least one window at an end of the discharge chamber for sealing the discharge chamber and for transmitting the optical pulse as an optical beam; and

an optics module positioned in a path of the optical pulse in the resonator, the optics module including therein a wavelength tuning element and a tuning motor coupled to the wavelength tuning element, the tuning motor capable of adjusting the wavelength tuning element in order to tune the wavelength of the optical beam transmitted from the resonator.

2. A gas discharge laser system according to claim 1, further comprising:

a control module operable to provide a drive signal to the tuning motor in order to adjust the orientation of the wavelength tuning element.

3. A gas discharge laser system according to claim 1, wherein: the wavelength tuning element is a prism.

4. A gas discharge laser system according to claim 1, further comprising:

a bearing assembly for mounting the wavelength tuning element, the bearing assembly allowing for a rotation of the tuning element upon operation of the tuning motor.

5. A gas discharge laser system according to claim 1, further comprising:

a lever coupled between the wavelength tuning element and the tuning motor, such that motion of the tuning motor moves the tuning element to tune the wavelength of the optical beam.

6. A gas discharge laser system according to claim 5, further comprising:

a coupling mechanism coupling the lever to the tuning motor.

7. A gas discharge laser system according to claim 6, wherein:

the coupling mechanism includes a ball held in position by one of a magnet and a spring.

8. A gas discharge laser system according to claim 1, wherein:

the tuning motor adjusts the wavelength tuning element in order to achieve a wavelength stability of less than 0.03 pm.

9. A gas discharge laser system according to claim 1, further comprising:

a beam splitter positioned in a path of the optical beam in order to redirect a portion of the optical beam.

10. A gas discharge laser system according to claim 9, further comprising:

a diagnostic module receiving the redirected portion of the optical beam, the diagnostic module adapted to determine a wavelength of the optical beam and generate a wavelength signal in response thereto; and

a control module adapted to receive the wavelength signal and drive the tuning motor to adjust the orientation of the wavelength tuning element in response to the wavelength signal.

11. A gas discharge laser system according to claim 1, further comprising:

at least one additional tuning motor coupled to the wavelength tuning element and adapted to adjust the orientation of the wavelength tuning element.

12. A gas discharge laser system according to claim 1, wherein:

the tuning motor is one of a plurality of tuning flexibly coupled to the wavelength tuning element; the plurality of tuning motors being in a radial configuration about a drive cylinder, the drive cylinder being coupled to the wavelength tuning element.

13. A gas discharge laser system according to claim 1, wherein:

the tuning motor is flexibly coupled to the wavelength tuning element through a moveable gib connected to the tuning motor.

14. A gas discharge laser system according to claim 1, wherein:

the tuning motor is selected from the group consisting of piezo ceramic motors, linear drive motors, piezo drive motors, linear voice coil actuator drive units, and rotary voice coil actuator drive units.

15. An optics module for a gas discharge laser, the optics module comprising:

an optical module housing including at least one window for receiving and transmitting an optical beam;

a wavelength tuning element in the optical module housing positioned in a beam path of the optical beam;

a bearing assembly mounted inside the optical module housing and coupled to the wavelength tuning element, the bearing assembly allowing for a movement of the wavelength tuning element; and

a tuning motor mounted inside the optical module housing and coupled to the wavelength tuning element, the tuning motor capable of moving the wavelength tuning element in order to tune the wavelength of the optical beam transmitted from the optical module housing.

16. An optics module according to claim 15, further comprising:

a control module in communication with the tuning motor and capable of providing a drive signal to the tuning motor in order to cause a rotation of the wavelength tuning element.

17. An optics module according to claim 15, wherein:

the wavelength tuning element is a prism.

18. An optics module according to claim 15, wherein:

the tuning motor is selected from the group consisting of piezo ceramic motors, linear drive motors, piezo drive motors, linear voice coil actuator drive units, and rotary voice coil actuator drive units.

19. An optics module according to claim 15, further comprising:

a lever coupled between the wavelength tuning element and the tuning motor, the lever allowing for a rotation of the tuning element upon operation of the tuning motor.

20. An optics module according to claim 15, wherein:

the tuning motor rotates the wavelength tuning element in order to achieve a wavelength stability of the optical beam of less than 0.03 pm.

21. A method for fast tuning of a gas discharge laser, comprising:

monitoring the wavelength of an output beam of the gas discharge laser; and

driving a tuning motor in an optical module of the gas discharge laser in response to the monitored wavelength, the tuning motor being coupled to a wavelength tuning element in a beam path of the output beam such that operation of the tuning motor functions to rotate the wavelength tuning element in order to tune the wavelength of the optical beam.

22. A method according to claim 21, further comprising:

redirecting a portion of the output beam to a diagnostic module capable of monitoring the wavelength of the output beam and generating a wavelength signal in response thereto.

23. A method according to claim 22, further comprising:

receiving the wavelength signal to a control module capable of determining a necessary amount to operate the tuning motor in order to properly adjust the orientation of the wavelength tuning element in order to tune the wavelength of the optical beam.

24. A method according to claim 21, further comprising:

maintaining a wavelength stability of the output beam of less than 0.03 pm.